

DRAFT

SOUTHEAST ALASKA ELK MANAGEMENT PLAN

DIVISION OF WILDLIFE CONSERVATION
DEPARTMENT OF FISH AND GAME

May 1999



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BACKGROUND

Statement of Purpose

In 1985, 2 years before elk were introduced to Southeast Alaska, the ADF&G, Division of Wildlife Conservation, drafted a report (Biological Feasibility of Transplanting Elk in Southeast Alaska) which included an abbreviated management plan. With a growing elk population, hunting seasons in 1997 and 1998, and continued concerns regarding exotic elk and native deer, it is

appropriate to undergo a planning exercise at this time. Some of the concerns the Division has about the exotic elk include competition for food with native Sitka black-tailed deer, disease and parasite concerns, and potential reduced hunting opportunities.

During its fall 1998 meeting in Ketchikan the Alaska Board of Game passed a resolution (included as an attachment to this document) stating the following:

Given the potential for elk to negatively affect deer populations and the general carrying capacity of Region 1, the Board recommends that the department take the following actions:

1. *Inform the public of the problems that may occur where elk and deer overlap, and that the overall capacity of the region to support deer may decrease.*
2. *Reaffirm the initial post-transplant policy of restricting elk to islands where populations are now established until:*
 - *the effects of elk in Southeast Alaska have been fully evaluated, and*
 - *the public has been fully informed and has provided guidance to the board and the department.*
3. *In one year, report to the board the options for containing the elk population on the islands where populations have become established.*



It is our intention to take the information in this draft plan to the public and report our findings to the Board of Game at its fall, 1999 meeting.

Introduction

Elk are not native to Alaska, but were successfully introduced to Afognak Island in 1929. In the 1920s, 30s, and 60s elk transplants were made to several Southeast Alaska locations, but due to a variety of reasons populations were not established. In spring 1987, 33 Roosevelt elk (*Cervus elaphus roosevelti*) from Jewell Meadows Wildlife Management Area and 17 Rocky Mountain elk (*C. e. nelsoni*) from the Elkhorn Wildlife Management Area in Oregon were translocated to Southeast Alaska. The elk



were tested for disease (TB and Brucellosis) and treated for parasites prior to transport to Alaska. Roosevelt elk were released at Dewey Anchorage on the southwest side of Etolin Island and the Rocky Mountain elk were released just north of Johnson Cove on the northwest shore of Etolin Island (see map). The release site and the herd's current range are comprised almost wholly of federal lands (Tongass National Forest). At the fall 1996 Board of Game meeting the board made a negative customary and traditional determination for Unit 3 elk, thus no one user group has preferred use of this herd.

Monitoring

Twenty-eight elk were radio-collared prior to their release, which allowed staff to track trends in elk number and distribution until 1993 when the last radio failed. About two-thirds of the elk died in the first 18 months from predation, starvation, and accidents. After that time the population stabilized, eventually began increasing, and today seems to be permanently established. In 1993, the last year radio collars on elk were still functioning; mark-recapture surveys suggested a population of 100–125 animals. Over the years Etolin Island elk reproduced and young were recruited into the population, although we do not know the rate with any accuracy. Our



current best guess is that the population has continued to grow moderately and may now number 250–300 animals. Limited attempts to capture animals and place radio collars on them in 1994 were unsuccessful.

Elk are most commonly seen on south Etolin Island, where the population is expanding. Elk also occur in good numbers on Zarembo Island, where there is now a growing population. There have been unconfirmed reports of elk on other nearby islands, including Onslow, Wrangell, Mitkof, Kupreanof, Kashevaroff, Prince of Wales, and Farm. Elk numbers in Unit 3 on islands other than Etolin and Zarembo are believed to be low. Most of the straying appears to be by the Rocky Mountain subspecies.

Hunting

In fall 1996 the Board of Game approved a Unit 3 elk season, authorizing up to 30 drawing permits for an October 1–31, 1-bull season. In 1996, House Bill

54 was passed allowing the Department to donate 4 elk harvest permits per year to non-profit hunting and fishing organizations for competitive auctions or raffles. In 1997, the first year of elk hunting in Southeast Alaska, ADF&G issued 27 elk drawing permits and 2 public raffle permits for the October hunt. Eight elk were killed, including 2 yearlings, 3 juveniles (2–4 years), and 3 adults (5–8 years). Hunters spent 144 days afield (1 elk/18 hunter-days), and 32% of those hunting were successful. Six of the 8 elk were shot near the beach and all were in good physical condition. Seven elk were killed on Etolin Island and 1 elk was killed on Zarembo Island. In the 1998 hunt a total of 30 permits were issued and 9 elk were killed, 6 on Etolin and 3 on Zarembo,



including 4 juveniles and 5 adults. In fall 1998 the Board authorized increasing the number of drawing permits to 70, and added a 2-week period (September 15–30) that will be for archers only.

The Department of Fish and Game has been criticized by some for not offering more elk permits, and for delaying as long as we did the opening of a hunt. Others believe there is too liberal a harvest rate that may put the elk herd at risk. We believe the harvest levels established for Etolin Island in the 1985

management plan and implemented by the Board are appropriate, and have not jeopardized the

integrity of the herd. We also believe it is prudent to control the spread of elk beyond Etolin and Zarembo islands until we better understand the impact of elk on native deer and other flora and fauna.

MANAGEMENT CONCERNS

Competition with Deer

The Department is concerned with the potential negative effect that an increasing elk population may have on native Sitka black-tailed deer. Research has shown the diets of deer and elk in Southeast Alaska overlap to a high degree, suggesting potential for interspecific competition (Kirchhoff and Larsen 1998).



The ADF&G and USFS have been jointly monitoring deer and elk populations (through pellet counts) and winter range on Etolin Island since 1991, and have found that in the areas monitored elk pellet group densities were doubled in 1998, while deer pellet group densities had declined by 56%. Based on vegetation surveys,

browsing has reduced blueberry shrubs, which are important winter forage for deer and elk. These effects are particularly evident in the beach fringe and on small hillocks, particularly where red huckleberry exists. Browsing pressure in these areas has been heavy enough to kill some shrubs. Although deer and elk populations on Etolin Island are currently healthy, these indicators give cause for long-term population concerns.

Elk may affect deer populations directly through physical displacement, or indirectly by competition for food resources or altered predator-prey dynamics. The relationships and the effects are not completely

understood, but there is sufficient basis for concern that at the time of the transplant the Department recommended limiting elk to Etolin Island (ADF&G 1985). If the spread of elk throughout Southeast is to be controlled, those efforts are best implemented sooner rather than later.

Consistent with our 1985 management plan, a proposal to open the Unit 3 elk season off Etolin Island was offered and passed by the Board of Game in 1993, but was later reconsidered and failed. At that time the board wrote and sent a resolution to the Alaska legislature recommending against future elk transplants.

Disease and Parasite Considerations

The potential for disease and parasite transmission from introduced exotics to endemic wildlife has long been a concern of wildlife biologists. Required quarantine periods and disease testing does not always detect problem animals. Specific diseases and parasites of concern include meningeal worms, bovine tuberculosis, and bovine brucellosis. Meningeal worms, found in elk and deer in other parts of North America, have not been found in Alaska. These worms are most often found on the membranes of the brain, and can be fatal to mule deer, moose, and elk, yet this parasite is detected only 50% of the time it occurs in live animals.



Bovine tuberculosis (TB) is a serious disease affecting wild animals. Besides being fatal to wild ungulates, TB also poses human health risks. Several Canadian workers have been exposed and infected with TB after working with diseased elk. There is no treatment or vaccine for TB in wild animals. Bovine brucellosis causes calf loss and lowers productivity. The giant liver fluke that is common in Western Canada can cause the death of deer and elk. Because its transmission is made easier in a wet environment, extreme caution should be taken to avoid introduction of this parasite to Southeast Alaska.

Habitat and Diet

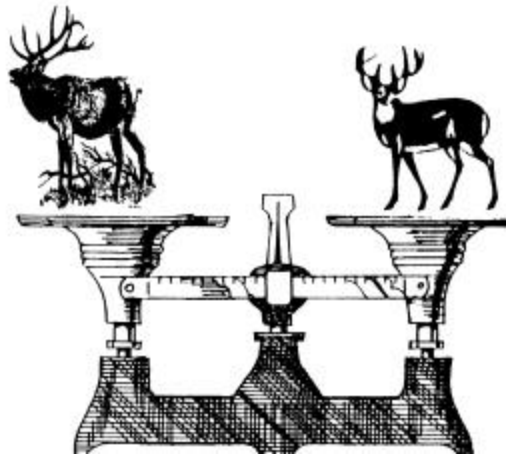
Like deer, elk select low-elevation forested habitat in the winter. Track and fecal-pellet surveys indicate elk generally concentrate their use below 500 feet elevation, and spend considerable time in beach fringe areas (within 1 km of the coastline). Preferred winter foods include salal, red huckleberry, and grass. These items



comprised 42% of the elks' diet during the largely snow-free winter of 1994 (Kirchhoff and Larsen 1998). The observed dietary overlap between deer and elk in Southeast Alaska is one of the highest reported in the literature, which indicates high potential for indirect competition (Kirchhoff and Larsen 1998).

Tradeoffs for Hunters

Should elk become widely distributed throughout Southeast Alaska, chances for increased elk hunting, and viewing will increase. One of the not so apparent costs of increased elk numbers could be a reduction in deer numbers and the overall loss of hunting opportunities. Deer hunting opportunities will be lost if elk out-compete deer during severe winters, resulting in fewer deer due to starvation or high predation rates. The Sitka black-tailed deer is a native species well adapted to the



climate and habitat of the region. In most of Southeast Alaska there are multiple deer bag limits. Loss of deer hunting opportunities will probably not be offset by elk hunting opportunities based upon our experience with elk and deer on Afognak Island. Hunters can anticipate elk hunts that are more restricted compared to most deer hunts, resulting in reduced opportunity and fewer hunters in the field.

MANAGEMENT RECOMMENDATIONS AND ACTIVITIES

The following recommendations and options for implementation were developed by ADF&G Wildlife Conservation staff after the fall 1998 Board of Game meeting to take to the public as examples of how we might manage elk in Southeast Alaska in the future. We would like public comments on these recommendations and options to help us finalize the elk management plan and develop regulation proposals to present to the Board.

Etolin/Zarembo Islands

1. Manage for hunting opportunity
2. Maintain population below carrying capacity to limit dispersal to adjoining islands and mainland; possible options include
 - Increase bull harvest guideline
 - Cow season
 - Registration permit hunt
 - Harvest ticket hunt
 - Longer season

Remainder of Southeast Alaska

1. Minimize elk numbers in the remainder of Southeast Alaska; possible options include
 - Year-round hunting season
 - Hunting season that coincides with deer season
 - ADF&G staff remove animals, killing where necessary, moving to Etolin or Zarembo island if possible
 - ADF&G issue permits outside of hunting season to take elk

The mission of the Alaska Department of Fish and Game, Division of Wildlife Conservation is to conserve and enhance Alaska's wildlife and to provide for a wide range of uses for the greatest benefit of current and future generations of the people.

PLANNED MANAGEMENT AND RESEARCH ACTIVITIES

Habitat

Browse transects– In cooperation with US Forest Service biologists we intend to continue winter range analysis started in 1991 and measured again in 1998 and 1999. A total of 54 transects have been established where *Vaccinium* abundance and utilization is measured. These vegetation assessments allow us to measure impacts non-native elk may be having on the habitat



Exclosures– We erected two browse exclosures on Etolin Island during the 1999 spring field season. We hope to make yearly measurements of *Vaccinium* and forb quantity within the exclosures and adjacent outside locations to allow us to better understand trends in browse use.



Deer and Elk Population Trends

Pellet counts– Elk pellet counts will be conducted annually in conjunction with spring vegetative measurements. Standard sampling techniques will be used.

Population estimate– Elk population estimates should be refined in time, especially if we are to maintain the

Etolin/Zarembo population at some level below carrying capacity. Methods may range from a repeat of the technique used in the 1985 transplant feasibility report to a comprehensive mark-resight estimate, which would be very expensive, probably in excess of \$100,000, and may not be possible at all.



Hunter Based Information

Elk drawing permit reports– The only legal elk hunt currently in Southeast Alaska is conducted under a drawing hunt format. Hunters are currently required to present incisors for aging and antlers for measurement. Data on hunting effort, hunt/kill location, date of kill, duration of hunt, and commercial services used is collected from all hunters. Hunters often provide additional anecdotal information about the number of elk seen, meat palatability, impressions on elk/deer numbers and distribution, and habitat changes over time. Much of the anecdotal information is often subjective and difficult to incorporate into management strategies.



Deer hunter survey– Annual deer hunter mail-out questionnaires have been sent to a sample of Region I deer harvest ticket holders since 1980. We plan to continue this survey which will allow us to measure hunter-based activities on Etolin, Zarembo, and other locations in the region. Data collected includes hunting effort (yes or no), hunt/kill location, number of deer killed by date, and duration of hunts.

ALASKA DEPARTMENT OF FISH AND GAME					
THREE SEASON DEER HUNT REPORT					
Hunter's Name _____		Report No. 28924			
Did you hunt deer in Southeast Alaska between August 1, 1988 and January 31, 1989?					
1. Yes <input type="checkbox"/> No <input type="checkbox"/> If No, you are finished. Please do not fill out this report. Thanks!					
2. Yes <input type="checkbox"/> If Yes, please complete the following information for each successful or unsuccessful hunt (use 1988-1989 season to find deer). Include only deer you killed, not those of others in your party. Include deer you killed for someone else as a "killed" (owner) or "bought" (designated hunter). Do not report deer someone else killed for you as a proxy or designated hunter.					
SPECIFIC LOCATION OF HUNT (Please specify day, month, PM, A.M., or M.L. Drainage and Subdrainage)		No. of Hunts	No. of Days	No. of Deer Killed	Transportation Used (to get to hunt area from where you live)
Example: H. Shore Tonsina Rd., Chignik Is.		0	1	10	2
Example: Upper Starkey Creek, PUM		0	0	8	12
1.					
2.					
3.					
4.					
5.					
6.					
Did you hunt deer for someone else as a proxy hunter? If <input type="checkbox"/> Yes <input type="checkbox"/> No as a designated hunter? If <input type="checkbox"/> Yes <input type="checkbox"/> No					
If you have any of the deer reported above, did you take any? <input type="checkbox"/> Yes <input type="checkbox"/> No as a designated hunter? <input type="checkbox"/> Yes <input type="checkbox"/> No					
Are you interested in any comments or observations you may have? Please send them to the address on the back of the report or contact your local game biologist. Thanks for helping with wildlife management in Southeast Alaska.					